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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,988	02/06/2001	Louis R. Nerone	32518 (LD11387)	3215

116 7590 03/20/2003

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EXAMINER

RIOS CUEVAS, ROBERTO JOSE

ART UNIT PAPER NUMBER

2836

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n No.

09/777,988

Applicant(s)

NERONE ET AL.

Examiner

Roberto J Rios

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (US patent 4,463,341) in view of Fendt et al (US patent 6,477,457).

As per claim 1, Iwasaki teaches a data/power transmission system comprising: a load receiver (90) for powering and controlling loads, said load receiver comprising a decoupler (C21,T2) for decoupling a communication signal from an electrical power bus, said communication signal containing encoded load information, wherein the decoupler electrically isolates the communication signal from the power signal (col. 6, line 46); a data receiver for receiving the communication signal from the decoupler and deriving data therefrom (col. 6, line 66); a data decoder for decoding data received from the data receiver and converting it to an activation signal according to the encoded load information (col. 7, line 23+) but does not specifically disclose providing a power converter for receiving the activation signal from the data decoder, wherein the power converter converts an electrical power bus input of a first voltage into a power output at a second voltage for powering the loads. However, Fendt et al (herein after Fendt) teach a data-power transmission system comprising a receiver including a power converter (9) for converting an electrical power bus input of a first voltage into a second voltage for powering loads, wherein an activation signal (S2) based on data modulated onto a power bus is provided to said converter (col. 4, line 62).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki with the teachings of Fendt such

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that a power converter is provided for the purpose of providing the load an appropriate operating/charging voltage.

As per claim 2, Iwasaki teaches a load transmitter (70) for transmitting encoded load information in a communication signal onto the electrical power bus, said load transmitter comprising: a data encoder for encoding load information into data (col. 4, line 49); a data transmitter for receiving the data from the data encoder and transmitting a communication signal (col. 5, line 1); and a coupler for receiving the communication signal from the data transmitter and coupling the communication signal onto the electrical power bus (col. 5, line 31).

As per claims 3 and 4, Iwasaki teaches the load information containing load state and load address information (col. 5, line 49), wherein said signal is received by said receiver to set the state of the load according to said signal. Fendt teaches the power converter powering the load according to the signal when the power converter is powering the load associated with that load address (col. 4, line 64).

As per claims 7-10, the teachings of Iwasaki in view of Fendt teaches a power converter to receiving a first voltage and providing a second voltage but does not specifically disclose a particular input/output voltage level. However, the Examiner takes official notice that to select a particular input/out voltage level would be an engineering design choice based generally on the power source and load capacity of a system. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki in view of Fendt such

that a 33V-42V to 12V-14V converter is provided for the purpose of adapting the system to a high-voltage power source application including low-voltage loads.

4. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki in view of Fendt and Smith et al (US patent 5,533,061)

As per claims 13 and 16, Iwasaki teaches a data/power transmission system for powering vehicle loads, comprising: a load transmitter for transmitting encoded load information in a communication signal onto a vehicle electrical power bus, said load transmitter comprising: a data encoder for encoding load state and load address information into encoded data; a transmitter for receiving the encoded data from the data encoder and transmitting the encoded data; and a coupler for coupling the communication signal onto the vehicle electrical power bus; and a load receiver for controlling vehicle loads and providing said vehicle loads with electrical power, said load receiver comprising: a decoupler for decoupling the communication signal from an electrical power bus, said communication signal containing encoded load state and load address information, wherein the decoupler electrically isolates the communication signal from the power signal; a receiver for receiving the communication signal from the decoupler and deriving encoded data from the communication signal; a data decoder for decoding the encoded data received from the receiver and converting it into a converter signal according to the decoded load state and load address information; but does not specifically receiving the signal from the data decoder, wherein a power converter converts an electrical power bus input of a first voltage into a power output at a second

voltage for powering the loads. However, Fendt et al (herein after Fendt) teach a data-power transmission system comprising a receiver including a power converter (9) for converting an electrical power bus input of a first voltage into a second voltage for powering loads, wherein an activation signal (S2) based on data modulated onto a power bus is provided to said converter (col. 4, line 62).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki with the teachings of Fendt such that a power converter is provided for the purpose of providing the load an appropriate operating/charging voltage.

The teachings of Iwasaki in view of Fendt teaches a power converter to receiving a first voltage and providing a second voltage but does not specifically disclose a particular input/output voltage level. However, the Examiner takes official notice that to select a particular input/out voltage level would be an engineering design choice based generally on the power source and load capacity of a system. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki in view of Fendt such that a 33V-42V to 12V-14V converter is provided for the purpose of adapting the system to a high-voltage power source application including low-voltage loads.

Iwasaki teaches modulating and demodulating a data signal but does not specifically disclose using FSK modulation. However, Smith et al (herein after Smith) teach that among modulation techniques available, FSK offers a number of advantages

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with respect to noise immunity and average signal power level. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki with the teachings of Smith such that FSK modulation is implemented for the purpose of improve noise immunity and average signal power level.

As per claims 14, 15, 17 and 18, Fendt teaches a DC-DC converter (9) but does not specifically disclose providing a DC-AC inverter. However, the Examiner takes official notice that it is well known in the art to selectively provide either a DC-DC or a DC-AC converter depending on the vehicle load type. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki such that a DC-AC inverter is provided for the purpose providing power to AC loads.

5. Claims 5, 6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki in view of Fendt as applied to claim 1 above, and further in view of Slavik (US patent 4,907,222).

As per claim 5, Iwasaki teaches the powering the load in response to a modulated signal but does not specifically disclose encoding and transmitting a load +signal back to the power bus. However, Slavik teaches a data/power transmission system, wherein a load signal is encoded and transmitted back to a power bus (col. 2, line11).



It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki with the teachings of Slavik such that a load signal is encoded and transmitted back to the power bus for the purpose of indicating to a remote location a condition of the load.

As per claim 6, Iwasaki teaches the load information containing load state and load address information (col. 5, line 49), wherein said signal is received by said receiver to set the state of the load according to said signal. Fendt teaches the power converter powering the load according to the signal when the power converter is powering the load associated with that load address (col. 4, line 64).

As per claims 11 and 12, the teachings of Iwasaki in view of Fendt teaches a power converter to receiving a first voltage and providing a second voltage but does not specifically disclose a particular input/output voltage level. However, the Examiner takes official notice that to select a particular input/out voltage level would be an engineering design choice based generally on the power source and load capacity of a system. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Iwasaki in view of Fendt such that a 33V-42V to 12V-14V converter is provided for the purpose of adapting the system to a high-voltage power source application including low-voltage loads.

6. Art of general nature relating to data/power communication has been cited for applicant's review.

### **Communication with PTO**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rios whose telephone number is (703) 306-5518. In the event that Examiner Rios cannot be reached, his supervisor, Brian Sircus may be contacted at (703) 308-3119. The fax number for Before-Final communications is (703) 872-9318, for After-Final communications is (703) 872-9319, and for Customer Service is (703) 872-9317.



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